

# Work Order ID 69838

\*69838\*

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May-29-12 2:16:13 PM

Item ID: D6006-129 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Crosstube Material  
 Start Date: 5/20/11 Start Qty: 20.00 \*20\* Cust Item ID:  
 Required Date: 7/12/12 Req'd Qty: 20.00 \*20\* Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6006	Rev A								

100

0.00

\*100\*

Purchasing

Purchasing

PURCHASING

Memo

0.00

Issue P/O: PA 1014 BS a) Order as per Dwg D6006 b) Material: 3.250  
 x 0.515 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11)  
 seamless aluminum tube c) Minimum ultimate tensile strength = 77 ksi d)  
 Minimum tensile yield strength = 66 ks

CL 11/05/20 20

110

Receive & Inspect for Damage & Mat'l Certs

0.00

\*110\*

Packaging

Packaging

Memo

0.00

Ensure material certification is attached

12/5/19 (21)

120

QC6- Inspect dimensions to drawing

0.00

\*120\*

QC

Quality Control

Memo

0.00

Ensure Material certification comply to Dwg D6006

5/12/13

Conto  
 (21)

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00  0.00							N/A
140 *140* QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00							N/A
150 *150* Packaging Packaging	Identify as per dwg & Stock Location: <u>LG</u>  Memo	0.00  0.00							Rm 12-6-6

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Item ID: D6006-129 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Crosstube Material  
Start Date: 5/20/11 Start Qty: 20.00 **\*20\*** Cust Item ID:  
Required Date: 7/12/12 Req'd Qty: 20.00 **\*20\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
<b>*160*</b>									
QC	Memo	0.00							
Quality Control									

12/6/12  
MCS 12/06/107

# Picklist Print

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Work Order ID: 69838

Parent Item: D6006-129

Parent Item Name: Crosstube Material

Start Date: 5/20/11

Required Date: 7/12/12

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:C04.06.15Added tolerance to Step 2KJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6006-129P Crosstube material		Purchased	No			110	Each	21.0000	1	20			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT		21							
				69838		21							

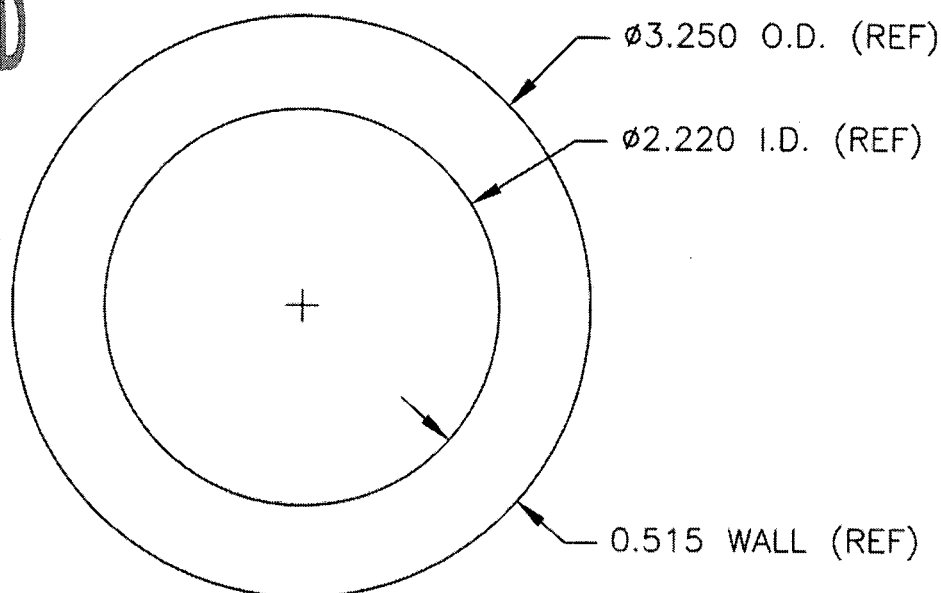
*Handwritten signature and circled number 21*



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D6006	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
00.11.24 *A*



### NOTES

- 1) D6006-XXX CROSSTUBE  
LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 129" LONG TUBE: D6006-129

- 2) MATERIAL: 3.250 OD x 0.515 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.  
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:  
O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)  
WALL:  $\pm 0.020$  MEAN ( $\pm 0.052$  INCLUDING ECCENTRICITY)  
LENGTH: XXX  $+0.188/-0.000$   
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Al. Unna ref. no.	42438/5
Customer PO.	Po. 14138
Date:	03.30.12

Dart Aerospace PO. 14138  
D6006 - 129  
Made in Germany Dest.: Hawkesbury Ont, Canada

free from live plant pests

[illegible]



# Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

**Kunde:** Dart Aerospace Ltd.

**Client:**

1270 Aberdeen Street  
K6A1K7 Hawkesbury, ON Canada

**Zeugnisnummer:** 431/12

**Cert No. / No. du certificat:**

**Bestellnummer:** PO 14138

**Order No. / No. de commande**

**Auftrag:** 42438/5

**Our Reference/Notre Reference:**

**Produkt:**

**Product / Produit:**

Rohre nahtlos gepresst

Tubes seamless extruded

**Spezifikation:**

**Specification:**

AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6006

**Werkstoff:**

**Alloy/Alliage:**

7075

**Zustand:**

**Temper/État**

T 6511

**Abmessung**

**Size / Dimension**

3,250 INCH x 2,220 INCH x 0,515 INCH x 129,000 INCH

D6006-129 3.250 X 0.515 X 129

**Kennzeichnung**

**Marking/Marquage:**

Cert. No. 431/12 - ALUnna - 7075 - T6511 - Cast No. 84070 - AMS - QQ - A - 200/11 - 3.250" OD x 0.515" Wall -

Heat Lot No. 1301475 - ALUnna Order Conf. No. 42438/5-1 - P.O. 14138

**Lieferung**

**Delivered Material / Matériel délivré:**

pcs.

lbs

21

1217

**Country of Manufacture: Germany**

Products are in accordance with applicable RoHS

Elemente ohne Grenzwerte:

einzel max. 0,05 %, insgesamt 0,15 %

## 1. Chemische Analyse

## Chemical Analysis / analyse chimique

Charge/ Cast No.	min.	max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
84070			0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
			0,07	0,13	1,43	0,04	2,47	0,19	5,79	0,03	0,01	0,02			0,0001

**Hydrogen content:** 0,14

**ccm/100 g Al** Elements without indication < 0,01 %

**country of melt manufacturer:** Germany

## 2. Mechanische Eigenschaften

## Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min. max.	77,0	66,0				
1	87,290	80,765	11,0			1301475
2	87,870	81,055	11,0			

RMS: outside 25 - max. 14,0 µ"

**Ergebnis der  
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

**Test results:**

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

**Resultats:**

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

mergardtri



Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2003  
valid until 2013-11-10

Cert.- Reg. No.: 001959 QM08; 001959 ASH



ALUnna

Abnahmebeauftragter

29.03.2012

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany





# EXTRUSION INSPECTION SHEET.

## ULTRA SONIC MEASUREMENTS

TUBE #	TOTAL LENGTH	DIA two readings	INSIDE DIA	wall thickness measured w/vern	Straghtness at 12"	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4
1		3.257/3.254	2.225	6505/531	0.010	N/A	middle	513	521	522	526
2		3.252/3.262	2.222	525/511	0.03	N/A	middle	513	507	516	518
3		3.251/3.252	2.222	513/520	0.014	N/A	middle t	525	0.524	503	516
4		3.258/3.254	2.225	499/534	0.019	N/A	middle	516	516	517	513
5		3.254/3.255	2.224	509/522	0.005	N/A	middle	519	517	508	518
6		3.254/3.254	2.219	496/531	0.016	N/A	middle	506	503	529	523
7		3.250/3.255	2.226	509/522	0.015	N/A	middle	521	517	508	518
8		3.255/3.257	2.222	510/519	0.017	N/A	middle	527	509	511	521
9		3.259/3.254	2.222	565/570	0.013	N/A	middle	523	518	514	508
10		3.254/3.252	2.221	569/523	0.014	N/A	middle	516	513	517	516
11						N/A	middle				
12						N/A	middle				
13						N/A	middle				
14						N/A	middle				
15						N/A	middle				
PART # 6006-129		P/O # 14136		BATCH # 69383		Notes: 5/26/03					